

**RELATIONS AT THE LEADING EDGE OF THE ENDICOTT MTS.
ALLOCHTHON, EAST-CENTRAL BROOKS RANGE**

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The wedge-shaped leading edge of the far-travelled Endicott Mts. allochthon (EMA) strongly influenced structure and foreland basin deposition in the southern foothills of the Brooks Range. The leading edge of EMA is in the subsurface along the western and central range front, but is exposed eastward between the Sagavanirktok and Ribdon Rivers in a west-plunging anticlinorium that formed during Eocene or younger growth of the northeastern Brooks Range. Okpikruak Fm., including mélangé overlain northward by thin-bedded turbidites, was deposited on the EMA wedge during its emplacement and now forms its tip. The EMA was emplaced over the North Slope parautochthon on a detachment in the phosphatic-manganiferous shale/pebble shale and Kingak Shale. Foreland basin deposits of the Fortress Mt. Fm. positionally overlie the tip of the EMA and the North Slope parautochthon. To the south, sandstone of the upper Fortress Mt. Fm. succeeds mudrock up-section. North-vergent folds and thrust faults formed in the Fortress Mt. Fm. during Paleocene deformation and probably were accommodated up-section to the north by a backthrust in the Torok Fm.. Thus, Fortress Mt. Fm. formed the core of a triangle zone with a roof in Torok and Nanushuk Fms., analogous to the Tuktu escarpment farther west. The range front also formed at this time and is marked here by a breaching thrust that emplaced resistant carbonates of the Lisburne Group of the North Slope parautochthon over EMA.

